

REMARKS

In the outstanding Office Action, restriction to one of the following inventions was required under 35 United States Code § 121:

- I. Claims 1-11 drawn to a water dispersible copolymer emulsion, classified in class 524, subclass 559;
- II. Claims 12-22 drawn to a water dispersible copolymer emulsion, classified in class 524, subclass 554;
- III. Claims 23-40 drawn to a water dispersible copolymer emulsion, classified in class 524, subclass 560;
- IV. Claims 41-46, drawn to a method, classified in class 524, subclass 823;
- V. Claims 47-52, drawn to a method, classified in class 524, subclass 824; and
- VI. Claims 53-60, drawn to a method, classified in class 524, subclass 800+.

Applicant elects the invention of Group I, that is, Claims 1 to 11 with traverse, for the following reasons.

The claim Groups noted above are all directed to similar salt-sensitive emulsion compositions, or methods of making the same; the restriction requirements between these groups are improper and should be withdrawn. The pending claims are drawn to either emulsion compositions (Groups I-III) and methods of making emulsion compositions (Groups IV-VI). Specifically, Group IV corresponds to a method of making the polymers in Group I, Group V corresponds to a method of making the polymers in Group II, and Group VI corresponds to a method of making the polymers in Group III.

In the outstanding Office Action, the Examiner restricted the claims between Groups I-III, reasoning that the inventions do not overlap in scope and are mutually exclusive. Similar restrictions were issued between the claims in Groups IV-VI. The Examiner also restricted the claims between the polymers (Groups I-III) and the method of making those polymers (Groups IV-VI respectively), reasoning that the process claims may be used to make a different product.

The restriction requirement between the process/product Groups is believed particularly erroneous. In the present case, the method claims recite identical starting materials to the corresponding polymers. Indeed, the method claims are directed to processes that produce the polymers in Groups I-III by definition. To illustrate the similarity between the claimed subject matter of the polymer claims and the method claims, representative claims from Groups I and IV are shown in Table 1 below.

Table 1

Polymer Claim	Method Claim
<p style="text-align: center;"><b>Group I</b></p> <p>1. An aqueous emulsion comprising a water-dispersible copolymer which is non-dispersible in aqueous solutions containing 0.5% or more of an inorganic salt, wherein the water-dispersible copolymer comprises in percentages by weight:</p> <p>(A) from about 10% to about 90% of an acidic ethylenically unsaturated monomer; and</p> <p>(B) from about 10% to about 90% of an ethylenically unsaturated monomer selected from the group of monomer formulas consisting of:</p> <p>(i) <math>\text{CH}_2=\text{C}(\text{R}_1)\text{COR}_2</math>;</p> <p>(ii) <math>\text{R}_3\text{OOC}-\text{CH}=\text{CH}-\text{COOR}_4</math>;</p> <p>(iii) <math>\text{CH}_2=\text{C}(\text{R}_5)\text{OCOR}_6</math>;</p> <p>(iv) <math>\text{CH}_2=\text{C}(\text{COOR}_7)\text{CH}_2\text{COOR}_8</math>;</p> <p>(v) <math>\text{CH}_3\text{CH}=\text{CHCOOR}_9</math>;</p> <p>(vi) <math>\text{R}_{10}\text{C}_6\text{H}_4\text{CR}_{11}=\text{CHR}_{12}</math>; and</p> <p>(vii) <math>\text{R}_{12}\text{CH}=\text{CHR}_{13}</math>;</p> <p>wherein <math>\text{R}_1</math> is hydrogen or methyl and <math>\text{R}_2</math> is <math>-\text{OZ}</math> or <math>-\text{N}(\text{Z}')(\text{Z}'')</math>, wherein <math>\text{Z}</math> is an alkyl group having from 1 to 7 carbon atoms, and <math>\text{Z}'</math> is independently selected from the group consisting of hydrogen and alkyl groups having from 1 to 6 carbon atoms; <math>\text{R}_3</math> and <math>\text{R}_4</math> are independently hydrogen or an alkyl group having from 1 to 7 carbon atoms, with the proviso that <math>\text{R}_3</math> and <math>\text{R}_4</math> are not both hydrogen; <math>\text{R}_5</math> is hydrogen or methyl and <math>\text{R}_6</math> is an alkyl group having from 1 to 7 carbon atoms; <math>\text{R}_7</math> and <math>\text{R}_8</math> are independently hydrogen or an alkyl group having from 1 to 7 carbon atoms, with the proviso that <math>\text{R}_7</math> and <math>\text{R}_8</math> are not both hydrogen; <math>\text{R}_9</math> is an alkyl group having from 1 to 7 carbon atoms; <math>\text{R}_{10}</math> and <math>\text{R}_{11}</math> are hydrogen; <math>\text{R}_{12}</math> and <math>\text{R}_{13}</math> are independently selected from the group consisting of hydrogen, <math>-\text{CN}</math>, <math>-\text{NHCHO}</math>, <math>-\text{NHCOCH}_3</math>, and an alkyl group having from 1 to 7 carbon atoms; and the copolymer has a weight average molecular weight greater than about 25,000 and is present in an amount from about 20% to about 70%.</p>	<p style="text-align: center;"><b>Group IV</b></p> <p>41. A method for preparing an aqueous emulsion comprising a water-dispersible copolymer which is non-dispersible in aqueous solutions containing 0.5% or more of an inorganic salt, comprising the steps of:</p> <p>(a) providing the following monomers in percentages by weight;</p> <p>(A) from about 10% to about 90% of an acidic ethylenically unsaturated monomer; and</p> <p>(B) from about 10% to about 90% of an ethylenically unsaturated monomer selected from the group of monomer formulas consisting of:</p> <p>(i) <math>\text{CH}_2=\text{C}(\text{R}_1)\text{COR}_2</math>;</p> <p>(ii) <math>\text{R}_3\text{OOC}-\text{CH}=\text{CH}-\text{COOR}_4</math>;</p> <p>(iii) <math>\text{CH}_2=\text{C}(\text{R}_5)\text{OCOR}_6</math>;</p> <p>(iv) <math>\text{CH}_2=\text{C}(\text{COOR}_7)\text{CH}_2\text{COOR}_8</math>;</p> <p>(v) <math>\text{CH}_3\text{CH}=\text{CHCOOR}_9</math>;</p> <p>(vi) <math>\text{R}_{10}\text{C}_6\text{H}_4\text{CR}_{11}=\text{CHR}_{12}</math>; and</p> <p>(vii) <math>\text{R}_{12}\text{CH}=\text{CHR}_{13}</math>;</p> <p>wherein <math>\text{R}_1</math> is hydrogen or methyl and <math>\text{R}_2</math> is <math>-\text{OZ}</math> or <math>-\text{N}(\text{Z}')(\text{Z}'')</math>, wherein <math>\text{Z}</math> is an alkyl group having from 1 to 7 carbon atoms, and <math>\text{Z}'</math> is independently selected from the group consisting of hydrogen and alkyl groups having from 1 to 6 carbon atoms; <math>\text{R}_3</math> and <math>\text{R}_4</math> are independently hydrogen or an alkyl group having from 1 to 7 carbon atoms, with the proviso that <math>\text{R}_3</math> and <math>\text{R}_4</math> are not both hydrogen; <math>\text{R}_5</math> is hydrogen or methyl and <math>\text{R}_6</math> is an alkyl group having from 1 to 7 carbon atoms; <math>\text{R}_7</math> and <math>\text{R}_8</math> are independently hydrogen or an alkyl group having from 1 to 7 carbon atoms, with the proviso that <math>\text{R}_7</math> and <math>\text{R}_8</math> are not both hydrogen; <math>\text{R}_9</math> is an alkyl group having from 1 to 7 carbon atoms; <math>\text{R}_{10}</math> and <math>\text{R}_{11}</math> are hydrogen; <math>\text{R}_{12}</math> and <math>\text{R}_{13}</math> are independently selected from the group consisting of hydrogen, <math>-\text{CN}</math>, <math>-\text{NHCHO}</math>, <math>-\text{NHCOCH}_3</math>, and an alkyl group having from 1 to 7 carbon atoms; and the copolymer has a weight average molecular weight greater than about 25,000 and is present in an amount from about 20% to about 70%; and</p> <p>(b) emulsion polymerizing the monomers from (A) and (B) in water at a solids level from about 20% to about 70% in the presence of a surfactant.</p>

As can be seen from the above claims, the process in claim 41 will always produce a resin of claim 1. This is also true as between Groups II and IV, and Groups III and VI. Accordingly, this is not an instance where the process as claimed can be used to make materially different products. The Examiner's statement that the processes are independent and distinct because they can be used to make, for example, pressure sensitive adhesives is simply a non-sequitur—the polymer which is produced from the process may be *used* for a number of things (e.g. pressure sensitive adhesive), but in all events, the process necessarily produces a polymer in the corresponding claim Group (I, II, or III). Contrary to applicable law, the Examiner's distinctness standard would require restriction between all products and processes, because any product could be used in a variety of applications. Accordingly, the *Restriction Requirements* between Groups I and IV, II and V, and III and VI should be withdrawn.

The remaining *Restriction Requirements* should also be withdrawn. The Examiner issued the restriction between Groups I-III, stating that they do not overlap in scope and are mutually exclusive because they recite different elements. For example, Group I includes compounds with lower alkyls, Group II includes compounds with higher alkyls, and Group III includes both high and low alkyl compounds. However, the presence of different claim elements, by itself, does not warrant a restriction. The test for restriction between different species is outlined at MPEP § 806.04(h):

Where two or more species are claimed, a requirement for restriction to a single species may be proper if the species are mutually exclusive. Claims to different species are mutually exclusive if one claim recites limitations disclosed for a first species but not a second, while a second claim recites limitations disclosed only for the second species and not the first. This may also be expressed by saying that to require restriction between claims limited to species, the claims must not overlap in scope.

The claims in the pending polymer groups, however, do overlap in scope. Note that the claims in Groups I and II each recite an aqueous emulsion with a salt-sensitive copolymer which includes an acidic monomer and an additional monomer. Each claim uses the transition term

“comprises” in reference to the additional monomers; thus, Group I and II may include the same resins. Accordingly, the Group I and Group II claims do overlap in scope. Additionally, the Group III claims are directed to species which are essentially included in either the Group I or Group II claims because they recite that the resin includes both the lower alkyl monomer and the higher alkyl monomer. Accordingly, the *Restriction Requirement* is improper.

The above remarks also apply as between Groups IV-VI, where the recitation of claim elements, while different, is not mutually exclusive.

In any event, Applicant is entitled to claim a reasonable number of species provided that there is not an undue burden as to search and examination. Applicants respectfully request that the *Restriction Requirement* be reconsidered as it is not shown in the Office Action that a serious burden would be required to examine the pending claims of Inventions I-VI in the instant patent application. Specifically, M.P.E.P. § 803 provides:

Under the statute, the claims of an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent (MPEP § 802.01, § 806.06, and § 808.01) or distinct (MPEP § 806.05 - §806.05(j)).

If the search and examination of all the claims in an application can be made without serious burden, the examiner must examine them on the merits, even though they include claims to independent or distinct inventions.

Thus, for a Restriction Requirement to be proper, the following two criteria must be satisfied: (1) the existence of independent and distinct inventions (35 U.S.C. § 121); and (2) that the search and examination of the entire application cannot be made without serious burden in the matter. *See* M.P.E.P. § 803. It is believed apparent from the similarity of the subject matter of the various claims that it would not be a serious burden to search and examine all of the

pending claims together. Consequently, reconsideration and modification or withdrawal of the Restriction Requirement to this extent is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael W. Ferrell". The signature is written in a cursive, flowing style.

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